Saskatchewan
Education

Future Requirements
The Need for Change in Education

Saskatchewan

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The opinions expressed are those of the author.

Background Paper

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A NEED FOR CHANGE

IN

EDUCATION

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TABLE OF CONTENTS

	Page
Preface	
Introduction	1
The Saskatchewan Scene - A Spirit of Change	
Educational Theories and Instructional Models	2
Continuous Progress	3
Grouping	4
The Student in Rapid Change	5
Necessity of Review	6
An Inner Look	7
Rigidity to Change	9
Time of Crisis	11
A Cross-Road	11
Educational Revolution	12
Images of Year 2000	
A Shift in Basic Education - Image One	15
Citizenship	
Competence	16
Culture	16
Technology in Education - Image Two	18
A Message from the Past	19
Present Technologies	19
Curricular Emphasis - Image Three	21
School Year: entrance and exit	22
What Direction	23
Potential resource	24
Conclusion	24
Alternatives - Image Four	26
Alternatives	26
Alternative Schools	26
Why their growth?	27
What Alternatives?	28
Conclusion	29
Research: Prerequisite to Competence - Image Five	31
Research	31
Educational Goals - Image Six	33
Educational Goals	33
Educational Issues	36
Elements of Tomorrow's Education	36
Collective Thoughts of Futurists	37
Conclusion	38
Bibliography	40

PREFACE

The modern era futurist's profession is relatively new to our society but in their short existence they have added both a dimension of hope and gloom to our lives. Futurists have always been with us. In ancient Greece, the future was supposedly read in the entrails of animals. During Biblical times, such people were known as prophets and their predictions were divinely inspired. Today's prophets or futurists base their predicitions on careful analysis of existing resources, conditions, attitudes, and trends. They extrapolate from the facts that emerge in an attempt to give us a glimpse of the future. The writer, lacking the skills of a futurist, cautions the reader by placing a caveat against the future images discussed in this background paper. The following text gives a limited review of the literature and touches upon some of the key areas most frequently mentioned.

INTRODUCTION

The past decade has brought many exciting developments in the field of education: the technological advancement of the hand-held calculator has mushroomed into the home-based and school-based computer which is revolutionizing education; the explosion of knowledge, through the exploration of the frontiers of space, of oceans, and of medicine, have rendered recently published books obsolete. The continuous evolution of social change as it affects the role of the family and the status of the individual, supported by the rise of divorce, of single parent homes, of extended families, of working parents, and of the rapid increase in the establishment of day care, nursery schools, and other child rearing facilities, has significantly diversified the backgrounds of the students enrolled in our schools. As a consequence the mass instructional techniques of today's schools no longer meet individual needs.

Through the media and television documentaries students have travelled to India, Africa, and have cruised the Caribbean; they have explored the ocean reefs and discovered its depths and witnessed the history of the space shuttle; they have viewed the moving drama of the after-maths of the powers of nature and the emotions of man; they have felt the silence of mass starvation amongst less fortunate peoples; they have gained the experiences of hate and of love throughout the world; and they have taken a medical journey through the advancements of fiber optics into their own body systems. This experiential impact on today's students, through the advancement of technology, has placed students into classrooms that are more diversified and no longer motivated by the traditional methods used in the environment of mass-instruction.

THE SASKATCHEWAN SCENE
-A SPIRIT OF CHANGE-

Educational Theories and Instructional Models

Learning theorists, researchers, and educational philosophers have emphasized various, diverse roles for teachers and students, and in addition, have suggested different patterns and structures for the educative process. These trends and issues include continuous progress, individualized instruction, flexible grouping, student centered learning, open education, and process education. Evidenced in Saskatchewan, however, is the traditional approach to instruction. The present instructional practice in Saskatchewan is viewed by the writer as being a standardized, mass-oriented approach. Each subject or curriculum area has its own set of prerequisites and exit skill level There is little room within the prescribed standards of the curricula to allow for teacher direction and teacher creativity. In too many Saskatchewan classrooms it is the rule rather than the exception that the prescribed text books become the curricula for the school year; the pre-requisite being the previous year's text book with the performance objectives simply being to complete the course of study. The publishers of the various texts become the educational experts and program planners as they dictate what will be taught and in what sequence it will be taught. In this standardized approach the whole class or large groups of students are kept on a page-by-page approach covering the content. In these situations the students who do not comprehend what the teacher is saying are wasting their time; so are the students who already comprehend what is being taught. When the teacher takes time to repeat or elaborate an explanation for the slower students or present ideas which only the better students can grasp, the loss of time is compounded. Further, the continuing practice of June promotions

to the next grade level create a severe restriction on students. Those not ready to go on to the next level do so taking with them certain deficiencies in various skills, and those ready to move ahead prior to June are held as they mark time waiting for the school year to end. In the day to day instruction of the traditional classroom mass remediation and mass enrichment fill the needs of the students working above or below the standard. In short, education in present Saskatchewan is designed to fit the child to the existing program. Once the child is fitted he or she continues in a "lock-step" method at a rate that has been predetermined by the teacher or a set of group standards.

Continuous Progress

On the other hand, continuous progress recognizes both the student and the teacher as an individual. To help the child develop as an individual and as a member in society, curricula are variable. Provision is made for both the variations in the kind of program and the differentiated rates of progress according to individual needs and abilities. This approach recognizes the teacher as a professional, who selects and evaluates programs and makes decisions. Theoretically, the approach concurs with valid learning theory and it represents a more humanistic approach.

Many problems related to this continuous, humanistic approach have developed in Saskatchewan. Teachers, concerned with their effectiveness, move children through text books and materials in the interest of having the child pass on to the next unit. Sometimes children are made to repeat units. Sometimes children's progress is determined by the rate of the group. Sometimes teachers perceive a real criticism from other teachers when they allow their students to become more independent in choosing the material and the method of learning.

Where teachers fail is that they, perhaps because of their peer criticism or perhaps because of failing to see the real purpose of education, lose sight of the value of early preventative education. In the primary grades it is the rule rather than the exception where the one-armed bandits, the ditto-machines, steal the experiential learning from the child as teachers smother their classrooms with this blue plague which forces the child to work his way through the pages to prove that some cognitive learning has taken place and some basic skills have been learned. In this model we teach children at a very early age to work for the extrinsic rewards of life .... when all the pages are completed there lies a yellow coupon worth three minutes of free time.

Grouping

Educational practices that deal with groups fail to recognize children as individuals. Group pace, single textbooks, grade levels, isolated classrooms, rigid and synchronized schedules, and group exams contribute to the depersonalizing aspects of Saskatchewan's current educative process. The common practice of ability grouping of students may lead to sterotyping and expectation affect, and in addition may negatively influence the child's self-concept. Furthermore, any type of structured grouping pattern severely limits the range of peer models available with which the child can associate. Wilson (1979) states:

> *Ability grouping is also seen as a educational practice that reinforces and perpetuates segration of children along ethnic and socio-economic lines. (p.535)*

Our present grouping practices in Saskatchewan tend to emphasize dependence and conformity, but individual initiative and independence are of far more value to the individual operating in today's changing and complex world.

The Student in Rapid Change

The present system of education in Saskatchewan has been caught up with the industrial terminology of standardization, synchronization, concentration, maximization, and centralization. In a time when "fact" is outracing "fiction" - the event of the Columbia Space Shuttle - society needs: a people that have command of their resources, both physical and human; a people who are process oriented rather than solely content oriented; and a people who are thinkers and problem solvers. In many Saskatchewan classrooms education is that which a teacher gives or does to a student not what the student gets or does for himself. Silberman (1970) asserts:

> *Schools discourage students from developing the capacity to learn by and for themselves; they make it impossible for a youngster to take responsibility for his own education, for they are structured in such a way as to make students totally dependent on the teacher. (p.135)*

Rather than being ignored, individual differences, and individual rights must be encouraged. Genetic diversity is a biological fact; each individual is unique and should have equal opportunity in the least restrictive environment to realize his potential. Einstein (Babin, 1980) said that education is what remains after you have forgotten everything you have learned at school. Education is not a mass of inert facts, but an attitude, a style, an approach, a frame of mind, or a process by which we learn how to learn. Not a measure of how much we have learned. And not a measure against a set of standard norms. Education needs to look at measuring its effect on students by studying the child's personal norms and noting what changes have been made.

Perhaps the recent studies depicting self-concept as a diminishing return as the child moves through the first six grades will be

enough of an incentive for educators to rationalize what it is they are doing. Meeting the needs of the individual is not a fad. As long as it is paralleled with human rights, and, more recently, child's rights it will continue to be a major concern with educational planning. It is perceived by the writer that the recent rekindling of educational theories and the escalation of research into these theories has created an atmosphere in Saskatchewan's education that supports the spirit of change.

Necessity of Review

The proposed curriculum review is significant because of the recent research that has been published on individualized instructional objectives and some of its counterparts such as achievement, self-concept and open-education. Also recent developments in language, neurological development and brain research have opened up whole new areas of information which give educators a broader base for designing instruction.

The need for a study in curriculum review can be supported by the following:

1. Educational achievement is a very significant concern for the entire educational enterprise. Drucker (Etzioni and Etzioni-Halevy, 1973) stated:

> Educational capacity, as much as natural resources or industrial plants, is becoming a crucial factor in international trade, economic development, and economic competition...the uneducated is fast becoming an economic liability and unproductive. (p.273)

The existence of our future society depends upon the quality of the human resources that leave our educational systems.

2. Alternatives to traditional whole-class instruction are being tested and used widely. The individualized instructional

approach has caught hold in many classrooms, however, the critical attributes of truly individualized instruction are sadly missing. Kepler and Randall (1977) view much of the individualized instruction as a "bandwagon" approach. Because of the demand for educational accountability teachers are emphasizing "back to the basics" at the expense of other essential elements of the total educational program. But, what do we consider the "basics"? The 3-R's? Can the 3-R's be compared equally to the large, tail-finned, chromed-capped cars of the 60's? Would the auto industry be wise in returning to their industrial technology of the 60's? Kepler and Randall view the bandwagon approach as teachers teaching the 3-R's where students become locked-in to teacher-made materials and move along at the teacher's pace. All students do the same work only individually! The thematic approaches of discovery have disappeared and the integration of subjects is far less evident as the individualized approach takes its toll.

3. The increased responsibility of the school for personal and social development has created an additional concern among educators to develop a system approach to meeting these new needs. Toffler (1980) cites as a new role for schools - one that sees tomorrow's schools fulfilling the needs of the individual in both meaning and community as well as educational achievement. He stated:

> *Individuals will vary more vividly tomorrow than they do today, more of them will likely grow up sooner, show more responsibilities and at an earlier age, become more adaptable and evidence greater individuality. (p.407)*

An Inner Look

Morris (1982) grouped the past 50 years in education into the following decades. Each decade saw major emphasis in education that permeated down into the classrooms.

1920's and 30's - the industrial and technical revolutions seemed to weaken the family structure and the curriculum responded to the needs of the child. Theorists like Watson and Thorndike prevailed in this era and postulated that learning occurred through repetition and reward. Child behavior was considered of major importance.

1940's and 50's - was the post war period which saw the pursuit of democracy filter into the curriculums. The democratic process resulted from the fear of authoritarian ideologies. The major concepts of equality, individuality, and social behaviors become evident with the popularity of Freud and Lewin. The emphasis on behavior moved to an emphasis on the process of learning (Piaget). Theory, process, and measurement (Weschler) of cognitive functioning became the basis of the curriculum. The 50's ended with the shattering of our educational crystal ball with Russia's startling blast off into space with their first Sputnik.

1960's and 70's - the early 60's saw a massive attack on holding our educational institutions accountable for their academic advancements. Existing math and science programs were rewritten overnight as the schools prepared to play the Sputnik catch-up game. The later 60's saw vast technological, political, and economic changes! Suddenly the students felt a loss of ownership with the schools and questioned the schools' directions. A search for meaning, community and structure was underway. The era of the "flower chidren" ensued. Theories of Maslow, Rogers, and Fromm were popularized - the needs for individualizing, self-discovery, self-enhancement, and self-acceptance. The social order in the 70's was characterized by permissiveness and liberalism. A new educational orientation followed which was advocated by Kohl, Holt, Glasser, and Rogers in which the curriculum looked at the whole person enhancing the affective

domain. Major educational issues of this decade were providing electives, vocational training, open schools, open classrooms, alternative schools, and fostering accountability.

The late 70's and up to the present time education has experienced a shrinking dollar and an esculating cost in maintaining what is at present. Frills have been cut back - the fine arts, the number of electives, and the social-science classes to mention but a few. As we continue to cut back on expenditures in keeping the cost of education down we see larger enrollments in the offering, more emphasis on the 3'rs because measurement in these areas can be somewhat accountable, and the combining of smaller educational facilities into larger operations.

1980's and 90's - will see the major educational priority as how the student learns rather than what the student learns. Facts rapidly outdate themselves. Curriculums will be followed using a multi-material approach, flexibile schedules, continuous progress, social experiences, and creative experiences. Problem solving will gain major emphasis at all levels of instruction.

Rigidity to Change

Let me digress for a moment and draw some parallels. It has been stated that if a person was time-warped out of our society in the 1930's to be returned back in the 1980's he would not recognize his previous community because of the technological advancements. However, the one place that he could visit and with very little adjustment - continue his ways of the 1930's, would be our schools.

Research has shown that children learn at different rates but we still tie them to curriculum, group-paced, decisions. Research has shown that children learn through cyclic stages - the active brain growth years and the plateau periods where integration of what was previously learned should be reinforced - yet, we continue

to subject students to equal amounts of new curricular content at each grade level. Research has shown that students are self motivated to learn when they see meaning in what they are doing when school can be seen as supportive to the work world and the community - school as a preparation for life - but, we continue to departmentalize and teach each subject separately. Research has shown that the "frill" areas of the fine arts are needed to add meaning to the school day, however, under the sharp knife of budget review they are the subjects that are first to go. Research has given us figures to support the thesis that the increasing drop-out rate of adolescents in our school system is due partially to the students failing to see a purpose in what they are doing and the direction that education is moving - yet, we ignore these symptoms and pass them off as a phase that the students are going through. Research has shown that alternative schools are economically viable and are being supported in concept by their community - yet, as educators we close our eyes and ears to the reasons why such schools are successful. Education continues to sit back on its padded chair oblivious to the tide of private schools, home schools, and the general discontent of the public. Alternative schools have given the public an alternative for their schooling - early entrance, individualized programming, re-emphasis of the fine arts, decelerating emphasis on the 3-R's, and preservation of a cultural heritage. In our present 80's some schools are still offering programs like the 1960 automobile industry with the useless fins and excessive chrome and weight; some school officials believe that bigger is better, but the large Caddies and Lincolns are gone; there are schools that believe their resources are unlimited and more money can fix the problems; and there are those that catch on to the fads and ride them out until one better appears. Research has shown that children learn both through their left brain and through their right brain - yet, we continue to operate left brained schools. Research has

written that we are placing overloads on our primary school children with our cognitive demands yet, we do precious little to educate the public on the potential ills that may befall children who are rushed into the academic domain. Nursary schools, Day Cares, and other child rearing agencies are getting involved in educating the child. When does education take a stand or intervene?

Time of Crisis

Like the crisis that shocked educational institutions in the late 50's and early 60's with the event of the Russian Sputnik, the crisis of change and preparing for and dealing with change is upon us now. Compounding the crisis of change is the racing economy and the ill planned stops or check points to keep the educational dollar value down. Eisner (1980) stated in his review of the state of present education that the provincial and local taxpayers are less willing to support public education and that private schools are being filled to capacity by parents who seem to believe that public schools can no longer do their job well. One only needs to refer to Toffler's book "The Third Wave" to see what major changes Toffler views as needed to overcome this crisis. He sees that schools must portray to the public and their students both meaning and structure in an environment of community and cooperation. Goodland (1979) supports Toffler's view by describing how schools have been called upon to solve almost every social problem and the schools become burdened with non-educational functions. Both Toffler and Goodlad see society neglecting its educational responsibilities. The whole culture needs to educate.

A Cross-Road - Educators are at a crossroad. Is it time to ease up on the 3-R's and begin to consider them as the lower literacies, thereby, placing a major emphasis on change? Change is so rapid now that factual information is being outdated as research and

technology take center stage. Since stress and tension accompany change, therefore, learning to cope with change will become a major task for educators. Shall the higher literacies become the 3-C's; cooperation, citizenry, and the concept of change? At present Goodlad (1979) sees schools as places where teachers indoctrinate and train students more than they teach. He sees future education as not focussing on the 3-R's. Technology can do this at a lower cost. Schools need to become successful at problem solving; they need to become sensitive to human relations; develop self-understanding; and share life experiences. Schools need to cultivate attributes of thought, understanding, relating, judging, integrating, and reflecting. Instruction needs to replace the major emphasis now given in the schools to discipline and supervision.

A major hurdle facing public education today is the negative attitude that the public have fostered over the past years toward the value and direction of public education. Educators must rekindle parent interest in the new direction and philosophy of the schools. Presently, disenchanted parents can only attack the educational system via the teacher. Our task is to turn this present public apathy into empathy for the school system.

Educational Revolution

Volk (1980), in an address to the Saskatchewan School Trustees Association, warned educators to be aware of an apparent state of paranoia in our society and among the teaching force. He stated if educators expect terrible things to happen then these fears alone may become a self-fulfilling prophecy. When educational or national leaders predict dire things in the future we tend to talk and act as though some terrible catastrophe looming just over the horizon is about to fall on us. Often our expectations influence our actions.

Prior to the mid 1940's Canada was clearly a backward nation (Volk, 1980) in the educational sense. But thirty five years later Canada blossomed forth as a world leader in education. If what we have accomplished in the first 100 years is an indication of our capabilities, and if what we have accomplished in the last 30 years is a measure of our ability to achieve goals, what we can do over the next 20 years is restricted only by our self imposed limits.

Drucker (Etzioni and Etzioni-Halevy, 1973) stated that we are presently undergoing an educational revolution because the work of knowledge is no longer unproductive in terms of goods and services. He sees productive work in today's society and economy as work that implies vision, knowledge, and concepts - work that is based on the mind rather than the hand. Druc ker adds that there will be no permanent oversupply of educated people as he sees these people as the capital of a developed society. He views it as a necessity that society must be educated to progress, to grow, even to survive. Toffler (1980), also discusses the educational revolution. He looks at education for its leadership in developing a social-effective society having a framework of order and purpose in life - one that has structure, meaning, and community.

Because education will play a significant position in the direction that Saskatchewan societies will take, and because the field of education forms the knowledge base of the writer, the following paragraphs will concentrate on constructing images that may characterize Saskatchewan education in the year 2000.

The following quote by Nazzini sets the stage for Saskatchewan educators. We must keep pace with the advancement of society and industry if education is to continue to supply the world with competent human resources able to solve society's present and future

needs ....

"Slumber not in the tents of your fathers.
The world is advancing.
Advance with it."

IMAGE ONE

A Shift in Basic Education

The recent cries for a "Return to the Basics" has been a cry for help. With a re-emphasis on the 3-R's teachers can find security in what they are teaching and schools can show their credibility by the product of success with their students. Rather than back to the basics we should be moving "forward to the foundations" needed to meet a "changing" society. In this advanced age of technology the automobile industry would not dare to attempt to move back to the "basic" knowledge of the 1937's. This same advanced technology is evidenced also in education but the fear of the unknown can find safety in returning to what once was accepted.

Our schools are capable of both training society and educating society. Training is the development of our skills, habits, beliefs, and attitudes through repetition and memory. Education is the development of our ability and inclination to make good choices and to exercise good judgement. Training is ability development: education is human development. Education in the future will need to pay attention to both areas. There will likely be a shift in what will be considered basic education. The present importance placed upon the teaching of the 3-R's (the last attempt at returning to the basics) will give way to the upward escalation of the importance of teaching the 3-C's - citizenship, competence, and culture.

Citizenship - Teaching citizenship will involve the preparation of people to become responsible participants in the decision making process following the belief that those who must observe the rules should play a part in making the rules. Toffler (1980) describes the crack-up of our present society's psychosphere - the rising rates of juvenile suicide, the staggering levels of alcoholism,

vandalism, and crime, and the complete disrespect for the court systems and the law enforcers, signalling an urgency for schools to teach citizenship.

Competence - Competence denotes a level of success or mastery. Holt (1969) maintains that a valid criticism of present education is the value it places on the competency level of being able to recite or recall fact-filled content. Content which runs the risk of being irrelevant or out of date by the time the student enters the world of work. Most classrooms are conditioned to operate at the lower end of Bloom's taxonomy seldom reaching the upper levels of synthesis, analysis, and evaluation. Competence in the year 2000 will be determined by the effective way students can work at these upper levels in solving day to day problems, the innovativeness to search for new solutions, the skills needed to cope with change, and the personal skills needed to interact with fellow workers fostering a sense of community.

Culture - The teaching of culture refers to the role of the school in preparation for the fulfilled life, with a command of the basic skills for learning and education. This role would encompass the social relationship between student and teacher and the learning environment. The classroom would become a micro community. Toffler (1980) views any gains that are made in understanding culture as being the key to the success of our future society. He visualizes the home as taking on a startling new cultural importance. Toffler describes the rise of the prosumer, the spread of the electronic cottage concept in industry, the inventions of new organizational structures in business and the automation and demassification of production, as all supporting the re-emergence of the home as a central unit in society's culture of tomorrow.

Schools did not just happen, they did not come about by accident. They were established and are supported by groups of people, by

societies, or by governments which expect to get something in return for their investment. That something will be supporting the shift in basic education - the teaching of the 3-C's.

Morris (1982) also projects that the 3-R's will receive a lower priority in the future. He looks at the new basics beyond the 3-R's: the fourth 'R' represents human relations; the fifth 'R' is representative of the development of self-reliance; and the sixth 'R' stands for the development of liesure time skills to promote relaxation in these stressful times. Preparing individuals with survival skills will be the educative task. To accomplish this, education will need to emphasize concepts of change, conscious awareness, and cooperation.

Can we really afford to return to the basics?

IMAGE TWO

Technology in Education

Futurists, like Fletcher and Toffler, are predicting a technological revolution inside the schools. They envision the learning environment will soon be better in our homes than in our schools. The event of the mini-computers, educational TV channels, and the combinations and permutations possible with TV and computer development will make the learning and assimulation of facts easier and more attractive in the home than in the school. Compared to the meagre financial support that education receives, industry is backed by millions of dollars in resources. Fletcher (Volk, 1980) advocates that new technologies will put the schools out of business in the market of education. However, to restrain the take over of technologies, schools will need to shift the educational emphasis from the 3-R's to the 3-C's. Values education will become a part of the school curriculum and self-respect and respect for others will be a major component in the instructional process. Values cannot be taught through the technological advancement of machines. Machines cannot reduce the present phenomenon of vandalism, theft, assaults on city streets, and business crimes. The human component of the teacher as the role model, the counsellor, and the advisor will be an irreplaceable educational component. The new direction of schools in the age of technological advancement will demand teachers who are trained to assist individual students, to develop acceptable values, and who live in a manner that can serve as a model for society. The acceleration of technology heralding the year 2000 will be staggering. Education must assume a good share of the responsibility for shaping society and becoming the master of technology rather than technology's slave. Cornish, the 1980 president of World Future Society (Volk, 1980), predicts that technology, like a disease out of control, will create an

economic slump of catastrophic proportions that will bring with it violence, and perhaps civil war. Dede (Volk, 1980) states that schools will be offered a double challenge: one challenge is to be ready in case micro-computers and related hardware do take over. The other challenge is being ready in case technology does not take over. The field of fiber optics is beginning to revolutionize communications. It will enable the home television and computer to become a visual encyclopedia with information data banks available to everyone. Fiber optics will allow more school learning to occur outside rather than inside the classroom; it will cause education to become more interspersed and interwoven with work and more spread out over a lifetime; and it will create the concept of community by making it possible for a larger number of students and workers to remain at home helping to bond families and making a stronger society - Toffler's (1980) electronic cottage effect.

A Message from the Past

Boards of Education will be concerned that just as textbooks have defined and shaped the way we deliver school programs, so might technology define and shape how we deliver school programs. Concerns are presently evident about depersonalizing education through the application of technology. Effective teaching will continue to be important and perhaps even more important in the future. The use of technologies should serve to make the teacher more effective.

Present Technologies

Blackman (1980) discusses four technologies which could have a major effect on education. As little as two years later we are finding that some of these technologies are already taking hold.

1. *Teleconferencing:* Through the advancement of teleconferencing, shut-ins confined to home with long or short term illnesses or limiting disabilities are able to participate with the students in the classroom.

2. *Dial Access:* Technology has advanced the operation of dial access which enables the consumer or user to reach stored information which has been placed on audio cassettes. The information is received by simply dialing the network.

3. *Slow Scan Technology:* Slow Scan permits one TV picture to be shown at a time by a TV linked to a telephone line. Slow-Scan permits the user to use both their visual and their auditory modalities for receiving the information.

4. *Computers:* Four years ago the costs of computers were prohibitive making them out of reach for small businesses and education. Now, through technology, the costs have been greatly reduced and, for the equivalent cost of an expensive bicycle, schools, businesses and homes can have a computer. It is estimated that by 1990 60% of our homes will have computers used to reduce the extent of their household chores and to store information. By 1990 these same computers will be hooked up to computer networks similar to cable television today. In schools computers will be used to reinforce the 3-R's freeing up valuable time for students to experience a curriculum that deals with cooperation, citizenship, competence, and community.

IMAGE THREE

Curricular Emphasis

There will be evidenced many changes in curricula and program. The school day may parallel our present school day but subject emphasis will have changed:

1. Computer literacy and operational knowledge about computers will become a significant part of the learning.

2. The common place of the calculator and computer in the classroom will bring about new courses in mathematics. The weeks of time once devoted to teaching decimals and fractions or long division will no longer be needed.

3. There will be an acceptance of a futures orientation to the curriculum. Students will still learn by studying the past but they will learn to predict the future by linking present trends with the knowledge of the past.

4. An interdisciplinary approach to problem solving will be evident at all levels of education as the curriculum swings away from subject content processes of learning to an emphasis on the process of learning.

5. Social science courses will actively promote community responsibility and global awareness and cooperation. Education will emphasize the 3-C's; citizenship, competence, and culture.

6. The phenomenon of the school drop-out will become the school drop-in. Students beyond grade twelve and the public sector will expect schools to provide them with meaningful experiences in their retraining and re-education keeping abreast and in control of the advancing technologies.

7. Life styles will become an area of importance in the educational curriculum as it will be the unifying thread interwoven

through the areas of citizenship and culture.

8. Personalized programs will be designed to meet the needs and provide optimum development for all students.

9. Career education and work experience programs will become more significant and will have a major impact on how students view their communities.

10. Human dimensions will receive greater emphasis through the teaching of fine arts, the humanities, and through the teaching of international understanding and cooperation.

11. Parental involvement will be a major component of the instructional program. Parents, as well as teachers, will develop a keener interest in developing the child's potential for self and social benefit.

These eleven curricula changes will do much to ease the present state of apathy felt by students in view of their school experiences.

School Year: Entrance and Exit

The year 2000 will see a realignment of the school year. The standard ten month period between September and June will give way to a much more flexible school year. The business of teaching will be carried out over the entire calendar year. Students will drop-in to education as well as drop-out of education with retrospect to their own and their family's personal needs and work commitments.

Student evaluation will be on a continuous system rather than the present promotional system which will allow for greater flexibility in the educative process better reaching the personalized needs of the individual. In this revised system of education schools will be dealing with a much larger population - the present six to eighteen concept will give way to an extension on both sides. Schools will become responsible for the education of the much younger child. Day-cares and nursery schools will be absorbed into the school program. Where at present only special needs children can receive

funded educational services, at the age of three all children will be eligible for such services. The upper extension of the school program will see older students opting out of the school environment for work experience and personal needs and then re-entering for a time to obtain further skills or new job orientation training. This system of opting out and in will be facilitated by the emergence of modular classes and computer-based education. Education will include both the young and the old and like any business in the competitive world it will operate on a schedule that maximizes the use of its facilities and its operating hours.

What Direction?

Bladwell (1981) has written a shocking scenerio for the year 2000. He postulates that future students will be streamed at a very early age into academic elite and or liesure oriented programs of instruction. With the advancement in the science of psychology and measurement children will be selected for their educational stream by the use of brain scans and psychological and chemical testing. The child would have little choice as to what group he is put in. Bladwell envisions society faced with the problem to select and train at minimum costs its brightest people. High level technology is becoming the core to existence, therefore, highly trained (not educated?) specialists elites will be essential to keep technology turning.

College and Universities will not escape the pressure. Bladwell sees that more stringent selection procedures will evolve. Only the cream will be siphoned off to the elite universities. But what of those left out of the academic stream? Bladwell has an answer. Much of the basic teaching of child and adult education or retraining might be conducted via home/community computer-TV installations. Such centers will fill the void of those left out of the academic stream.

Potential Resource

If our future economy and civilization is to be dependent upon the type of people that leave our educational system, and writers like Drucker, Etzioni, Holt, and Toffler are writing about these concerns now, then educators and administrators in education must come to grips with this problem and meet it head on. Will we let technology rule how we educate for the future? - or will we use technology to facilitate how best it can support our educational plans?

Conclusion

One concept that is more easily envisioned is that the educational system will gain more responsibility for educating the pre-schooler. If our research into child development is accurate and our emphasis begins to shift to that of cooperation, self-acceptance, self-reliance, and social-interaction then education will need to intervene. School will need to become the place where it all comes together. Further, the shift to two working parents for economic reasons as well as self-sufficient reasons is placing more and more children at earlier ages into child rearing facilities - Day Cares, Nurseries, Home Schools. As often is the case, the coordinators of such facilities are not educators but laypersons who enjoy what they are doing and often, either directly or indirectly, get involved with the prerequisites to schooling.

Education will not end at 17 to 18 years of age. With the rapidly changing job market and life styles young and middle aged adults will be returning to school to be retrained in a job related skills or re-educated to cope with the changing society. The elderly will not go by unnoticed for those people will need the education to learn to cope with leisure time or develop pursuits that can be enjoyed during the later years of life. As Toffler has cautioned, a healthy society will be a productive society at all ages.

Drucker refers to the 80's and 90's as a period of "turbulence". During this time of our revolution we will see: discontinuity with the past; uncertainty about the future and control of our destinies; and anxiety about the present over our ability to understand what is happening, and coping with the change.

IMAGE FOUR

Alternatives

As mentioned earlier the tax payer is less willing to support public education. Private schools and home schools are gaining their hold on our country's education. Parents are looking at other means of educating their children because they are under the belief that public schools can no longer do their job well. Can we afford to continually lose basic foundation grant money to these non-public educational institutuions? Can we continue to allow drop-outs the opportunity to dropout on the assumption that we have done our best? Economically we cannot and socially we cannot. Can we continue to sit back and turn deaf ears to the concerns voiced by our parents? Obviously not, as these parents are willing to leave the public school systems in order to gain some measure of success in directing the level of education that their children are receiving. Perhaps it's time to study more seriously the impact of Alternative Schooling.

Alternative Schools

Raywid (Alternatives, 1981) has traced the beginning movements of Alternative Schools which got their start in the United States and his research parallels very closely with the state of our economy and society today. Alternatives got their start in the 1970's. They grew out of the humanistic movement of the late 60's. Prior to this the American public envisioned schools as cold and dehumanizing. They were opponents of the Vietnam War and American materialism. The public were both confused with the American system and disenchanted. Team-teaching, programmed -learning, computer-assisted instruction, open classrooms, and the Head Start Program all had lack luster findings in the 60's. Parents reacted negatively to this attempt at education and combined forces to open up alternatives to the present educational system. By 1970 there were over 100 Alternative Schools, and by 1980 the number had climbed to 10,000 schools (Raywid, 1981).

The movement got its start in Florida and by 1980 it was estimated that 90% of the larger school systems provided Alternatives.

Why Their Growth?

Raywid (Alternatives, 1981) has summarized the literature on the expansion of Alternatives:

1. Their optional nature - parents can look over the curriculum and make a choice as to whether such schooling fits into their philosophy.
2. There are different Alternatives to meet the different needs of learners.
3. The atmosphere is far different from that of public schools. Students and teachers feel better about attending. There is a purpose and a plan for what they are doing and the parent sector is supportive of the school at home. There is exhibited far less vandalisim and violence.
4. They provide local control for parents, students, teachers, and administrators. Decisions not applicable to their schools are not made some distance away to filter down causing stress and tension.

Shuttleworth (1981) reported on the Toronto Board's decision in 1978 to look seriously at providing alternatives to their present public education. The decision to try Alternatives was encouraged by the increasing pressure on schools to serve each student, brought on by a drop in test scores and a parallel drop in public confidence, and the increased drop-out rate in middle schools and the increase cost attributed to vandalism. At the time of Shuttleworth's article Toronto had 20 Alternative Schools covering programs from Junior Kindergarten to adult education.

By looking at Toronto's three basic types of Alternatives it is clearly evident that these same needs exist in our educational system today and that they can be attributed to a feeling of tension and stress.

1. Learning Styles Alternative - these alternatives were recognized by the present knowledge and, the concern raised from knowing that knowledge, that each individual has their own unique style of learning. These schools are more right brained oriented with emphasis on the artistic achievements in the fine arts. Further, these schools offer smaller pupil-teacher ratio, and cooperative decision making. Such schools offer more individualized programming and make wide use of community resource.

2. Socio-Economic Alternatives - these alternatives were set up in the inner-city schools and working class neighborhoods. The students in these schools have not had a successful background of academics nor have they adjusted socially to the demands of their public schools. Basically, the school student population is comprised of non-achievers, school drop-outs, and behavioral problems. Needless to say these symptoms are no longer present in the Alternative school.

3. Cultural-Linguistic Alternative - these alternatives are limited and basically operate where parents wish to preserve a cultural heritage or language skill.

The Alternative Schools ensure the rights of parents, students, and teachers to initiate alternative programs. Case (Alternatives, 1981) postulates that surviving Alternatives developed around unique program features such as the individualized approach, open design, community based learning, and upon continual evaluation and modification; basing such changes on research, involving the school community, and with clear philosophies and goals. Barr (Alternatives, 1981) considers Alternatives as the greatest potential to improve public education. Alternative Schools have been instrumental in

moving education out of the classroom into businesses, social agencies, and museums. The concept of Alternatives is based on the assumption that different people learn in different ways and to reach success the learner must be matched to the teacher.

Conclusion:

Shuttleworth (1981) has discussed major benefits evolving out of the Alternative School approach. Perhaps one major advantage not mentioned by Shuttleworth and worthy of note is that quite often the enrollments in such schools are made from a body of students that would; firstly, not be attending the school system and secondly, if attending it would be highly likely that these same students could be at the detriment to the education of others. Shuttleworth's nine benefits are as follows:

1. Development of independent, intrinsic study.
2. Greater mobility - use of a variety of community resources and subjects offered at regular schools.
3. Unique needs - it has proven adviseable to group students with similar needs and interests.
4. Quality education has been highly successful with enrollments under 100.
5. Prevents school closures - the Alternatives attract out of school students.
6. Alternatives for teachers to find the right teaching environment.
7. Smaller numbers makes use of technology more economical and efficient.
8. Students move out to the community to use theatres, galleries, and studios.
9. School-Cottage Industry - in special cases experiencing the job market helps bring meaning to drop-outs or potential drop-outs.

The supporters of the Alternative School approach tend to believe that such schools breed success. These schools seem to foster more caring teachers and teachers who are more student centered. The end result being that there is an increase in student self-worth and concept.

Are our present school systems turning out teachers from the stress and tension of change and the opposition or resistance to change? Would the research on Alternatives be applicable to our major problems?

IMAGE FIVE

Research: Prerequisite to Competence

Education is seen presently as a very domesticated service which continues from day to day with little concern as to any threat to its existence. There is very little need for change because its clientele are legislated to attend and any change could affect teacher job security found within the walls of education. However, in the year 2000 educational institutions will need to be much more viable if they are to financially compete with other agencies for their existence. Society is very knowledgeable about medical research aimed at finding a cure for cancer, or the research in energy conservation attempting to better control the use and abuse of energy, or petroleum research in searching for new reservoirs or the production of efficient man made fuels. Because society sees a need for further knowledge and investigation in these areas it supports such research. But, what of education? At best it is presently a reactive agency rather than a proactive one. Because it is borne by society it seldom needs to prove itself. In the year 2000 education will be forced to promote research into finding solutions to its own problems as well as testing out new theories and discovering their effectiveness over short term and long term periods of time. To compete for the dollar, education will have to be seen as a competitive agency in society. Education can no longer take the passive role. It must interact with society and support society to assure society of its vested interest.

These changes will take time to evolve but will be achieved through effective school administrative practices. Administration will need to take direct measures to promote school programs and studies within their own attending areas and the media. Direct efforts will need to be put into place to encourage dialogue with parents and public, and teachers will need encouragement to research pertinent areas of concern during their return to their educational studies. In

general, education will need to become proactive rather than reactive. It will need to expend its energies in the area of researching instructional and educational related concerns rather than reacting to criticism.

IMAGE SEVEN

Projecting images of future school settings would not be complete without a brief encounter with what futurists predict will be the goals of our schools tomorrow. Image seven gives a brief report on the literature surrounding future goals.

Educational Goals

Education will need to compete for financial support with health agencies, social agencies, and government services. Schools, in order to receive sufficient financial support, will need to become much more accountable in the eyes of senior governments and the public sector. Society will demand from education a return for their investment. Education by the year 2000 will be forced to operate from a visible set of goals written by the teaching sector as well as the student and the public sector. Educational planning will be reflected in these goal statements thereby increasing the possibilities to bring about effective change within the schools. Current goal statements will give direction to and encourage well planned, well developed, tested, and implemented changes. Changes that will be lasting and beneficial to society and not ones that run the risk of becoming fads.

Weinberger (1976) stated that the ultimate goal in future education is to prepare students to live in an unknown future. The challenge to education becomes one of equipping students with the knowledge, skills, and values that will enable them to live effectively, productively, and enjoyably in tomorrow's world. It is important to remember that most projections for the future are extrapolations of current trends, and since societal forces are many and interact in complex ways, one must anticipate that there will be some unforseen changes. Weinberger (1976) lists the following ten goals for planning future education:

(1) Problem Solving Skills:

Considering the accelerating rate of change in knowledge, technology, social institutions, and the unpredictability of changes it is crutial that education prepare the individual to cope with the new rather than with the familiar in all aspects of living, including work, citizenship, participation, social relationships and one's personal life. Problem solving skills are analyzing the situation one confronts, considering alternative courses of action, making decisions, then planning and carrying out courses of action toward solutions.

(2) Skills in Self-managed Learning and Action:

Schools must assume responsibility for teaching students those qualities and skills that will enable them to take charge of their own affairs and not to passively allow others to make all their decisions for them. Individuals must be capable of learning what is needed for making wise decisions and then carrying them out. Self managed learning is built on a base of knowledge. On possessing those basic skills in language and number that are the focus of the elementary school program. Schools of the future must provide instruction in basic skills to citizens of any age so they can function as capable individuals.

(3) Competency Motivation:

The demands being placed on individuals in all areas of living make it increasingly important that each person be motivated to superior accomplishments of any activity he or she undertakes - at all skill levels. Education at present, traditionally plays a key role in the "sorting out process" in which some must succeed and many fail. Those that fail in school and in life come predominantly from the rank of the economically, social and educationally disadvantaged. The consequences of incompetence for the individual and for society-at-large are evident. For the individual it means denying that individual the privileges and success others enjoy. For society the incompetence of millions of individuals to function effectively in major life roles give use to many critical problems that threaten society's very survival. Education must honor the craftsman and must provide vocational education that prepares people for this field of work.

(4) Career Education:

The sharp and continuous shifts in the occupational structure that have resulted from applications of science and technology have virtually made unskilled labor obsolete. The production of material goods requires less than one third of the labor force, while health services, education, recreation, social services, research and development, accounting, and administration employ nearly two thirds.

Changes such as these require that education for work place strong emphasis on teaching problem - solving skills and interpersonal skills - the job force in the future will require retraining five or six times during the person's life. Adult education must be offered to cope with these needs.

(5) Citizenship Education:

The survival of democratic government depends on a high level of citizen participation in making and implementing decisions that concern individuals, groups, and society. Today's unemployment, group conflict, crime, depletion of natural resources, pollution, corruption in government, international tensions are signs that the value of citizenship needs to be paramount in tomorrow's society. Education for effective citizenship requires that all students be taught to analyze issues and problems, compare alternative courses of action, and join with others in formulating and enforcing solutions. Citizenship education needs to provide an understanding of the continual growing conflicts between the haves and the have nots in the country, and between the have and the have not nations on the world wide scene.

(6) Interpersonal and Intergroup Attitudes and Skills:

Education must develop effective programs that teach the attitudes, values, and skills of positive and constructive interpersonal and intergroup relations. The task for education is to teach understanding and acceptance of differences among individuals and skills in relating positively with others.

(7) Values Education:

One's values are involved in career choices, in citizenship behavior, in interpersonal and intergroup relations and in competency motivation. Values education should seek equity for all rather than hold the value that success is synonomous with equity and among the top 10%. Values must stress the service - oriented society, on achieving personal satisfaction rather than possession, and on excellence of craftsmanship.

(8) Psychological Education:

Under rapid societal changes it is difficult to achieve an integrated and personally satisfying set of attitudes and values and a production style of life. Learning to look at oneself objectively is a critical requirement of psychological education. Building a rich inner-life is important to cope with future regimentation and restrictions of our outward freedom. Educational programs of tomorrow will require a more "personalized" educational program which focuses on the child's optimum development rather than bringing the child up to group norms - developing a positive self-image.

(9) Education for Leisure:

A need to fit into tomorrow's "person-centered" society - a way to keep both body and mind active - a way to feel success or sense of achievement or worth.

(10) Future-Focussed Role Image:

Children must develop a personally, socially, and vocationally satisfying self-image that will prove to be realistic as they grow older. The goal would be to help the learner achieve a projection of life in the decades ahead that integrates perceptions of needs and values with perceptions of opportunities and problems in living.

The literature on planning future curricula and goals supports six educational issues that are repeated most frequently in the various models discussed. These are, in order of their weighted importance:

1. *individualized instruction*
2. *parent, student, and teacher involvement in both the planning and the decision making*
3. *consumer (being the student) choice among optional educational programs, environments, and methodologies*
4. *development of problem-solving and inquiry skills*
5. *incorporation of out-of-school learning, and*
6. *use of technology in management and instruction*

Avery (1980) discussed five major elements that will play a direct role in shaping the goals of tomorrow's education;

1) *there is no one predetermined future;*
2) *the future will be determined by a combination of change and humane choice;*
3) *future change will alter life styles;*
4) *students require basic forecasting skills; and*
5) *students need to anticipate and adapt to change.*

I would like to leave the reader with one question. Is there room in our present schools to incorporate these basic elements?

COLLECTIVE THOUGHTS OF FUTURISTS

There are many common concepts that are discussed by different futurists in the literature. An attempt has been made to list these for a comparative check to what we are doing presently in our educational systems. Futurists agree in general that education in the year 2000 must:

1. *develop a concept of global community*
2. *education to become a continuing life-long process*
3. *need for flexibility in instruction*
4. *recognition that there is a wide range of performance between learners*
5. *self motivation is increased when learning is partly self-selected*
6. *continuing education will serve past 30 year olds and 60 year olds*
7. *teaching and learning should not only occur in schools*
8. *home-school relations need to improve*
9. *preventative education will be superior to compensatory education*
10. *instruction is related to biosphere and society services, and,*
11. *the promotion of human geography.*

CONCLUSION

The writer has attempted to focus on several key images which may characterize Saskatchewan education in the year 2000 - the question of education or training, technology, curricula and programs, educational goals, school year and enrolment, and, finally, the value of research. At this point in time it is difficult to guess whether education will slowly evolve toward these images cast for the year 2000. But, as vital school administrators, we must keep these images active. We must move with technology keeping it in its proper role, not allowing it to define and shape how we deliver our school programs, and not allowing education to become depersonalized through the application of technology. Effective teaching will continue to be important and perhaps even more important in the future. Technology will serve to make the teacher more effective. We must first set our goals, then match technology to them. Modular curriculum instruction will provide the necessary flexibility which will allow for both a provincial core and a locally developed module to be taught in the same course of studies. Shared, written goals of education are paramount if educational institutions expect financial and public support. These goal statements must be perceived by the public as being reachable and of common concern, and schools will be held accountable for reaching these prescribed goals. New goals of education must be confirmed and old goals must be revalidated if schools are to move ahead with confidence born of a motivating sense of direction. Probably, increasing emphasis will be placed on teaching skills rather than subject specialization. There will be a greater emphasis on tutorial skills in the sense that the teacher encourages, motivates, draws out and leads the student through the education jungle. Research will become the password of education. Goals will be looped into the educational reasearch and will be outgrowths from the compiled research being done.

Research, both at the local and provincial level as well as the federal level will give education the visibility and the credibility it needs to draw upon financial and public support.

The writer supports Drucker's basic prediction when it comes to the discussion of educational change - it is predicted that if someone who departed this life a century ago was to return, the only place they would find comfort through past identification would be our classrooms. The writer predicts that there will be change but that education will resist each change fiercely for that is our nature but changes will be for the better and we can count on that; for all of our experience as Saskatchewanites has shown that things are better today than they were yesterday.

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